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AN
ESSAY ON MATTER.

BRITISH MUSEUM

AN

ESSAY

K

ON

MATTER.

IN FIVE CHAPTERS.

> Trace Science then, with modeſty thy guide,
> Firſt ſtrip off all her equipage of pride;
> Deduct what is but vanity, or dreſs,
> Or learning's luxury, or idleneſs;
> Or tricks to ſhew the ſtretch of human brain,
> Mere curious pleaſure, or ingenious pain:
> Expunge the whole, or lop th' excreſcent parts
> Of all, our vices have created arts.
>
> POPE.

PHILADELPHIA: PRINTED FOR THE AUTHOR.

M,DCC,LXXXIV.

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APOLOGY.

THE Author begs leave to remark to his Reader, that his Thoughts upon Matter are here placed in the order in which they were conceived; and that when he had written the firſt and ſecond Chapters, he had not anticipated the laſt, or even the two following: that he had never read any Author who had conſidered Matter in this way, whereby to faſhion his mind to a ſyſtem, nor did he even know that thoughts ſimilar to theſe, had ever been conceived.

The Reader, therefore, will enjoy the advantage of having his ideas on the ſubject, excited in the ſame order that the Author's were, which he conſiders moſt natural, therefore beſt; the ſubject growing out of itſelf. Indeed he conſidered words as being the moſt imperfect ſigns of thoughts; of courſe, the moſt common ſource of impoſition: he, therefore, cautiouſly avoided any information upon his ſubject from that ſource, leſt, inſtead of acquiring information, he ſhould imbibe prejudice; and depended upon reaſon alone for truth.

When the Author had done what is contained in this Treatiſe, a ſevere illneſs put a ſtop to further progreſs in the work, and thereby prevented him not only from giving a better arrangement to this Diſſertation, but alſo from ſhowing how the theory of it would apply in practice, which he, perhaps too vainly, conſidered would be important information to mankind.

After waiting many months, the Author finds his indiſpoſition ſo obſtinate as to make him deſpair, at leaſt for a long time, of recovering that health of body and vigour of mind, which is required for ſuch an arduous work. The Reader, therefore, will find in it a great deal of matter only propoſed to his mind, *not finiſhed for it; but if he have been in the habit of thinking cloſely upon things, the hints may be ſufficient; if not, perhaps the moſt prolix manner would afford but little information to the mind of indolence.*

The Author is aware that his ſubject has the prejudices of mankind to combat; he the more regrets that he is obliged to expoſe it to them in this imperfect ſtate: but if his health and private concerns of life will hereafter permit, he promiſes the ſubject all the advantages which ſo weak a ſupporter can give it. In the mean while he hopes that ſome generous and ſtronger mind than his, may anticipate this neceſſity, and do the ſubject juſtice.

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W. Sargent

AN

ESSAY ON MATTER.

CHAP. I.

MATTER SIMPLY CONSIDERED.

> See thro' the air, this ocean, and this earth,
> All Matter quick, and burſting into birth.
>
> POPE.

THE term Matter includes every thing that we can poſſibly ſee, hear, feel, taſte, or ſmell. Our minds can have no information or conception of that which is not material. A complete diviſion of matter is impoſſible, and to our ſubject unneceſſary: it is of it's general principles only that we mean to treat.

We ſhall therefore obſerve, firſt, the Combination of Matter, ſecondly, it's Motion, and thirdly, it's Duration.

It is generally known what in Chymiſtry is meant by Affinity. On this principle not only the union of all compound bodies depends, but alſo their conſiſtence and form.

The Union of Bodies is of different kinds, or what we ſhall name Perfect and Imperfect. The imperfect may include thoſe bodies which, after union, maintain ALL their primary qualities unchanged. The perfect thoſe whoſe ſmall and imperceptible parts, when united, apparently loſe their primary form and quality.

We can ſeparate the component Parts of Bodies until we come to what, from the imperfection of our ſenſes, we are obliged to call FIRSTS, which in reality they are not, being themſelves compounds. The particles of matter which enter into their compoſition, are ſo ſmall, and bear ſo much nearer relation and likeneſs to each other, that our eyes are eluded in the ſearch. There is no body but what is a compound.

We find ourſelves capable of compounding any two Firſts: Of which compound we can form another, and add compound to compound without end; for every new compound makes the maſs groſſer, and thereby fits it to unite with groſſer things. As we know no end of compounding, ſo it follows that we can know no beginning.

MATTER CANNOT WASTE. Philoſophy and Reaſon can allow nothing ſupernatural to happen in this world, as it carries with it an idea of imperfection in Omnipotence, which is both impious and abſurd.—I cannot then imagine what motives could have induced mankind to entertain notions of the periſhable nature of Matter. They ſeem to ſpeak of it too as a natural effect of things, and not miraculous. Making things into nothing requires no leſs power, and is not leſs miraculous, than making nothing into things. To ſuppoſe that Matter could waſte or periſh, and that this is conſtantly happening, muſt carry with it the ſuppoſition, that Matter muſt be conſtantly creating DE NOVO, which is taking from the Deity the attribute of omnipotence.

Can that power be omnipotent, which requires time for it's operation? Can that wiſdom be infinite, which obſerves imperfections in it's own works, and ſees a neceſſity for alterations? Infinite wiſdom knew at firſt what was neceſſary to be done; and there could have been no ſpace between conceiving and doing in infinite.

If, to uſe words which are adapted to our own capacities and not to things, I may be allowed to ſpeak of a beginning where there was none, I would ſay, that when the Creator firſt conceived the deſign of creation, he muſt at that inſtant have conceived the whole deſign; and his power was ready, at that inſtant, to ſpeak that whole into exiſtence: nothing after that could be neceſſary.

CHAP. II.

MATTER AS CONNECTED WITH THE VITAL PRINCIPLE.

WHERE there is Motion in one Particle of Matter, or in a number of Particles of Matter, making what we call Body, and the motion of this particle or body is independent, i. e. not influenced or actuated by any other particle or body to motion ſimply, there is Life. We do not include that influence, which all bodies receive from the elements, either, primarily, from themſelves, or, ſecondarily, through the medium of ſome other matter or body. All Matter is poſſeſſed of life, ſpirit, action, or motion. What is called inanimate Matter, owes it's motion or life no more to the elements, than what is acknowledged to be animate. —This elementary influence preſuppoſes the animation of bodies; for as theſe cannot move without that influence, ſo neither can that influence, where there is no life.—To ſay that the elements alone give motion, is to ſay that the elements give life, which is denying an Universal Agent, or making him appear to act more by intermediate agents, than Philoſophy will allow.

No one, I preſume, will doubt the independent Motion of Matter in that form which we name Animal, at leaſt that it is as independent as in men.—We allow animals to be a compoſition of Matter without Soul, yet we allow them to be poſſeſſed of the principle of motion. It is from this motion ſolely, that we allow them to be poſſeſſed of life; for there is nothing beſides, that can or does influence the mind to make it aſſent to this truth, that Animals have Life; and it is from the different combinations of motion and matter, that we form our ideas of the different kinds of animals.—It is then from motion, and nothing elſe, that we judge of and allow Matter, of a particular kind of compoſition, to be poſſeſſed of the living principle—the ſame evidence muſt have the ſame weight in every other kind of compoſition.

Wherever Motion is diſcoverable in Matter, be the form of it what it may, we muſt acknowledge it to entertain the living principle. But it may be ſaid, that though motion be an evidence of life in matter of certain forms, and where the motion is of certain kinds, yet motion of every kind will not prove the exiſtence of life in matter of every form. This abſurdity of ſuppoſing a Caput Mortuum[*] muſt appear to every one who conſiders the connection and dependence which exiſt in all bodies upon each other,—the motion which this connection ſuppoſes,—and life which motion evidences. There is a perpetual exchange of matter with matter of every form. The animal creation, for inſtance, is conſtantly exchanging parts with the earth and it's atmoſphere. If the matter compoſing animals be animate, and that of the earth inanimate, how can theſe be united? This would be to ſuppoſe that two oppoſites could exiſt in one body, whereas it is the nature of oppoſites to recede from each other, and nothing can be greater oppoſites than life and death.

The independent Motion of Matter in that form called Vegetable, can be as little doubted as in Animals.—Storms, earthquakes, fires, floods, do not cauſe vegetation, any more than they do generation in animals. The natural or preternatural motion of bodies, no more contribute to the motion of matter in vegetables than in animals; they, like us, receive only the natural and gentle influence of the elements, and thereby make a link in that chain, which connects all matter, and which is the harmony of creation. We ſhall be more particular in ſpeaking of motion in vegetables, when we come to treat of the nicer operation of matter in that action which we call Thinking.

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[*] If any one could prove to me the Annihilation of any Matter, be it ever ſo ſmall, they would have no difficulty in proving to me, my own Annihilation, which, until then, I am by no means willing to grant.

We come now to ſpeak of the Motion of Matter in thoſe forms where it is leſs obſervable upon a ſuperficial view of things; but where, upon a nearer view, it is not leſs evident than in either of the other forms mentioned.

Whoever doubts the Motion of Matter in the form of a Stone, let him take the trouble to look upon the firſt rock in his way, and he will ſee it's ſurface mouldering. Whatever decays muſt be repleniſhed—FOR MATTER CANNOT WASTE.

Stones then give to and receive matter from other bodies. Circulation is a very perfect motion.—Will any one aſſert, that the motion of giving and receiving of it's ſubſtance does not exiſt in the ſtone with only that aſſiſtance which they, in common with us and animals, receive from the elements?

The Motion of Matter in the various forms of Minerals is more obſervable, as it is more lively. There is a conſtant fluctuation of matter in all mineral bodies.

When Miners open a mine, and do not find the ore they are in purſuit of, in the quantity and purity which they expected, they ſay THE MINE IS NOT RIPE, and cloſe it up again that the metal may have time to grow.

If Matter have not the vital principle, then have I the power of creating.—The bulk of my form is increaſed by the matter which, in the action of eating, inſpiration, and abſorption, I add to myſelf. If this matter have not the principle of life, how can I make it partake of me, and thereby partake of life? Can I unite dead and living things? Or, can they be united in me?

Chymiſts tell us that the Union of Bodies depends upon the Affinity, i. e. the likeneſs, which matter in one form, has to matter in another form, and tell us no further.

We have before mentioned the different kinds of Union produced by Affinity—the perfect and imperfect.—But what gives the quality of union, and preſerves the exiſtence of the compound? It is the living principle in one body, inclining it to aſſociate with the living principle in another body. Without this living principle, that inclination, which ſuppoſes motion, could not exiſt.

Let me here give a caſe of Affinity,* where that operation happens in objects large enough to make it viſible.—We obſerve that mankind incline to aſſociate with mankind; the ſeveral tribes of animals with each other, in preference to thoſe not of their kind: this is not from the election of form to form, but of action to action—this is called Affinity.

What Chymiſts call De-compoſition may be ſimply illuſtrated thus: If a Horſe, wanting his natural companion, form an attachment to an Ox, and a third ſubſtance be added, namely, a horſe, the firſt attachment is immediately diſſolved; the one horſe attaching himſelf to the other.

It is upon this principle only, that we can rationally account for the Action of Affinity.—I would, therefore, not have Chymiſts to ſay, that union depends upon the relation, affinity, or likeneſs, which matter in one form, has to matter in another; but upon the relation, affinity, or likeneſs, which the living principle in one form of matter, has to the living principle in another.

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* This is an inſtance of the imperfect Action of Affinity. The perfect affinity is the union of the various matter in one entire organized body; but this will be illuſtrated, when we ſpeak of the nicer operation of matter.

Gravitation, Attraction, or whatever name be given to that which induces to Motion, depends upon the Principle of Affinity.—Some may object, that there is a difference between that which induces to animal, and that which induces to mechanical motion—As well may they ſay, that there is a difference between that which induces to motion, when I walk and when I run; the latter being no more than the firſt motion increaſed: for upon the principle of affinity or attraction, depends all motion; as much mine when I walk or run, as the needle's when applied to the loadſtone, or alkalies when applied to acids.

In ſome inſtances of the perfect Union, there is the moſt lively Action; matter meeting and uniting to matter with ſuch velocity as to produce heat, and ſometimes fire.——There are other bodies which are ſo volatile, and have a quality ſo much reſembling our notions of life, that men are forced to give them the ſame general name, i. e. Spirit; though they affect to have a different meaning, which they cannot define.

We may try the art of Chymiſtry in vain, to ſeparate the component Parts of Bodies, until we find an uncompounded particle of matter, which may be ſtrictly ſaid to be SUI GENERIS—but, as far as our inveſtigations can go, we find every part poſſeſſing the living principle. We cannot ſeparate it from matter—to us they are the ſame: for what is indiviſible, is to us infinite.—Matter and the living principle, therefore, are co-exiſtent: the one as durable as the other, and both from everlaſting to everlaſting.——The Ignorant and Proud may exclaim, are we nothing more than finely-qualified matter! Is there no other diſtinction between us and the brute creation, than the ſame matter more nicely organized! Notwithſtanding the envied place of diſtinction man ſuppoſes himſelf to hold in this world, compared to other matter in it; notwithſtanding his impious boaſt of ſuch a near relation to the great UNIVERSAL CAUSE of this and all worlds, as to ſuppoſe himſelf, after the Angels, his firſt and moſt perfect work—he is no more than the firſt order of animals.

CHAP. III.

THE GENERATION AND CHANGE OR DEATH OF MATTER.

LIFE is generated, continued, and terminated, upon the ſame principles in what are called inanimate, as in animate things.

None will diſpute that the production of vegetable Life, is, by the action of generation, the coalition of male and female. Their death happens from the ſame cauſes as in animals, by accidental impairs of their ſtructure, or by time which wears them out. By accident, I mean what we call the irregular motions of the elements, either acting directly of themſelves, or indirectly through other bodies.

I have ſaid what we call IRREGULAR MOTIONS, as they are not in reality IRREGULAR, ſince they anſwer the intention of the UNIVERSAL AGENT, in making things comport with that ſtate of frailty which he, no doubt, deſtined for this world.—By decay of time, I mean that the vital principle, which is joined to all matter, may be made to be ſtronger than the matter in any one form, and over-act it; or, the operation of each upon the other, may, in time, weaken both, ſo as to make them mutually diſpoſed to ſeparate, and thereby anſwer the intention before mentioned, of making things conſiſtent with the ſtate of frailty, for which this world was deſtined from the beginning.

That Mineral and other Subſtances generate, follows from their decaying.—That they are poſſeſſed of the living principle, we have ſaid, follows from their motion and change of form. May it not be preſumed, from their connection with other animated things, and their likeneſs to them in every other eſſential, that they are like them alſo in their generation and death? For Nature maintains an uniformity in all her operations.—The ſeeds of ſeveral vegetables, and their mode of generation, have been lately diſcovered; but before theſe diſcoveries, it was not doubted that they had ſeeds becauſe they were too ſmall to be obſerved by the naked eye. Their analogy, in every other eſſential, to other vegetables, went for a proof of their likeneſs to them in this particular.

As the Principle of Life in the things we are treating of, is united to matter infinitely ſmall, ſo we cannot diſcover with our eyes, the parts of generation, nor the proceſs, as in animals and vegetables.——In ſuch caſes we muſt recur, for our arguments, to eſtabliſhed principles and analogy; and the reaſoning here, muſt be as valid as the reaſoning upon facts: if there be error, the error will be in the reaſoning; for what is well eſtabliſhed as a principle, becomes a ſtanding fact in all caſes which apply.—Have we not then juſt grounds to ſuppoſe, nay, does it not amount to demonſtration, that life is generated and terminated by the ſame means here, as we know it to be in other living things?—Otherwiſe we muſt ſay, that this is an exception, and the only exception, to a general principle, viz. THAT NATURE MAINTAINS AN UNIFORMITY IN ALL HER OPERATIONS.

When an human Body ceaſes all thoſe Motions which conſtitute the action proper to man, we make a groſs compariſon between it and a body in the ACTION OF MAN, and ſay it is dead.—When we ſee a limb removed from an human body, we make a groſs compariſon between it and the body to which it was juſt before united;—the action in the one being apparent to the eye, the other not—we ſay the limb is dead.—Here we ſee how far a ſingle word, the word DEAD, impoſes upon our judgement.—If words were away, which here as in many other caſes, and in all, more or leſs, act as an opiate to the mind, from the obſtinate habit we have of receiving ſounds for things which they do not deſcribe; if words were away, then our minds would combine ideas, in the caſe which I have juſt mentioned, as follows, and our judgement would approve the combinations.—If life extends to all matter, it muſt extend to all matter in it's priſtine ſtate, i. e. uncompounded; ſo it muſt extend to matter ſmall beyond our comprehenſion. Life cannot depend upon compoſition. If any doubt, let them try the poſſible effects of compounding, and they will find them to be all groſs; it gives a groſs variation to the form, ſize, motion, &c. of matter; but it is groſs only: for in it's own priſtine ſtate, &c. each particle of matter is retained in the compound, though the compound is capable of deceiving our ſenſes upon a ſuperficial view.

Suppoſe a number of men crouded together, making a form which, in Tactics, would be called a ſolid ſquare, and their motion united in one point; this ſquare is compoſed of men, files, companies, regiments, brigades. Now, ſuppoſe a Being whoſe organ of ſeeing is ſo groſs, that to it this ſquare appears as ſmall as the moſt minute object does to our's, he will ſee but one form, ſize, and motion, and thoſe altogether different from the ſize, motion, and form, which each individual gives in to this compound; and hence may conclude as reaſonably as we do in other things, that this ſquare has but one life and one motion.

Combination then cannot deſtroy matter and motion: but by uniting various forms, and of courſe various motions, the compound motion becomes as different from that which each particular motion contributes, as the compound form does from that which each particular form contributes.

Every thing preſented to our view is a compound; and our own bodies perhaps the moſt compounded of all.—Like our military analogy, it may be ſaid to be compoſed of a great number of individual ſubſtances.—If a limb be lopped from it, that limb loſes the motion of the body, which before it helped to compoſe, THE MOTION PROPER TO THE MAN COMPOUND; but all the matter which enters into the compoſition of the limb retains it's priſtine motion, form, &c. ſo a company or regiment drawn from our ſquare, loſes the motion of that body, which it before helped to compoſe, the motion proper to a ſolid ſquare: but every individual which enters into the compoſition of that company or regiment, retains his own motion, form, &c.

A ceſſation of that motion which conſtitutes THE ACTION PROPER TO MAN we have called Death; and, contenting our minds with the ſound of that word, we take it for granted that the operation of death has happened to every particle of matter, which went to the compoſition of that form whoſe motion has juſt ceaſed, though parts of that body enter immediately into the compoſition of vegetables and animals, and even into another body like it's own.

It would be well to prevent the further impoſition of this WORD, to give the operation of death it's proper name, i. e. a name which will be a better ſign of it's operation, and call it a CHANGE; for death, in the ſenſe which it is uſed, cannot happen any more than Eternity can end.---Matter can change it's form, or, to ſpeak more properly, the form of matter can be changed to our groſs ſenſes; but matter cannot ceaſe to be matter, and as life is co-exiſtent with matter, life cannot ceaſe. Death may be as properly applied to the beginning of life as to it's termination; for the beginning of life (or motion) in one form, has it's origin in the death, or what we wiſh to be called the CHANGE, of another form. Emerging from one kind of exiſtence into another is LIFE BEGINNING; emerging from one kind of exiſtence into another is LIFE ENDING: hence the propriety of the word CHANGE in the place of the word DEATH. This CHANGE is conſtantly happening in all matter, and in all cauſes and effects are the ſame.

Every thing is poſſeſſed of the ſame living principle. That which cauſes motion in one form, cauſes it in every form of matter, though the ſame principle does not cauſe the ſame motion or action in all; the difference lies in the difference of compounding. Matter in one form or compound is actuated by this principle, in a manner conformable to that particular compound or form. The perfection or imperfection of this motion, if we have a right to ſay that one kind of motion is more perfect than another, is owing to the perfection or imperfection of it's compounding. But we ſhould ſpeak with diffidence on this head; for how can we judge of the imperfection of that motion which exiſts in bodies whoſe bulk and motion are too ſmall to make them evident to the naked eye, and of which we can only ſay, that they are matter, and have motion? Their ſmallneſs ſhould not be an argument of their imperfection, any more than the largeneſs of body and motion in another, ſhould be an argument of their imperfection. Every thing which we ſee partakes of infinites, and that which is infinite extends, on all ſides, to ſmall as well as to large—great and ſmall are words adapted to finite; in infinite there is no great or ſmall.

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CHAP.

CHAP. IV.

THE FINER COMPOSITION AND ACTION OF MATTER.

THE miſtaken pride of man may aſk, Is there no difference in the SOUL which informs my body, and the living principle which actuates matter in other forms?—I anſwer, that, if by SOUL is meant ſomething diſtinct from matter, or that which is immaterial applied to the matter of my body, and thereby inducing motion or action, I cannot comprehend the queſtion; becauſe I can have no ideas of that which is immaterial.—It muſt be a ſomething, or rather a nothing (for ſomething is matter) which is not known in philoſophy or reaſon; and, we would wiſh to ſpeak here of things only which belong to reaſon.

Reaſoning is no more than the fineſt operation of matter which we know of; and we can reaſon upon nothing but matter.—Reaſoning is the comparing of material impreſſions or ideas.——We cannot reaſon without compariſon. The ſoul, in the ſenſe of my queſtion, is not matter; we know NOTHING that is not matter; we have NOTHING to compare things with but matter; we cannot, therefore, reaſon upon ſoul in the ſenſe of my queſtion, for want of compariſon. The word SOUL gives us another inſtance of the impoſition of words. We cannot realize what our ſenſes cannot perceive, what our reaſon cannot operate upon and aſſent to. Reaſon, in vain, may try it's operation upon SOUL; it will find nothing to compare it to, and can therefore convince us of NOTHING, but that the ſoul, in the ſenſe of my queſtion, is NOTHING. If the ſoul be not matter, it is NOTHING.

Let me aſk any one how I can reaſon upon NOTHING? And with what kind of propriety or truth I can ſay, that I believe I am poſſeſſed of a ſoul which my reaſon cannot act upon, therefore cannot aſſent to? For when I ſay I believe a thing to be, I mean that my reaſon aſſents to the exiſtence of that thing; I cannot believe what my reaſon cannot comprehend and aſſent to, for I can have no idea of it. Ideas, we have ſaid, are the impreſſions of matter upon our minds, and reaſoning the comparing of thoſe ideas; until then you add matter to ſoul, i. e. give unto ſome matter the name of ſoul, and define what kind of matter you mean by that name, we cannot reaſon upon it.

I muſt therefore anſwer my queriſt in a way as little gratifying as before, viz. that reaſon knows no difference in the nature of that which actuates him, and that which actuates a vegetable, an oyſter, or a ſtone.---The different action depending upon the different compoſition of matter.

Every compound has it's proper action aſſigned to it. If man had confined himſelf to this, and had not ſtrayed in romantic and viſionary ſpeculation, from what he calls the natural into what he calls the moral world, he would long before this have come to a proper knowledge of himſelf. The word SCEPTICISM would have no uſe in our language, for then the mind would have no dealing with that which it could not operate upon and aſſent to. Man, then, would better ſupport his real character of dignity, than by impiouſly ſuppoſing himſelf to be, what he is not, but two removes from the great UNIVERSAL CAUSE. We do not conceive the frog to be greater, becauſe in his own proud imagination he had ſwelled himſelf to the ſize of an ox. May we not juſtly ſuppoſe that man ſtands in the ſame ridiculous view to thoſe, whoſe rank in creation as far exceeds his, as his does the frog's, when he ſwells himſelf in his own proud imagination, to a ſize that is not his?

But what is this univerſal principle, which actuates all bodies, all matter?

Before we anſwer this queſtion, let us aſk ourſelves, what is the ſtrength and extent of our reaſon, that we may not, by overſtraining or going beyond it, be found groping in the dark? Let us try how far reaſon can go in ſearch of the Universal Cause, upon which motion depends: but, in this ſearch, let us be governed by reaſon, and let alone all that is beyond that, for where the End of comparing is, there the End of our Knowledge must be. That which we cannot know, our reaſon tells us, is what our compoſition was not deſigned to know.

We can uſe no name that will give us an idea of God as a Being. All that we can know of him muſt be from his action; the moſt applicable name that we can uſe, is that which beſt deſcribes this action; I would then prefer this, the UNIVERSAL CAUSE.

That there is a God we believe from this, that Things are, and that they move. Things could not be, and cannot act without a Cause. This negative argument muſt be deciſive in proof of a God. What cannot be otherwiſe, muſt be ſo. If we could uſe affirmative arguments, then could we define the nature and powers of God, which would be to deprive him of his great characteriſtic INFINITE. This argument is ſhort, yet longer than was neceſſary, becauſe Words at all were unneceſſary. We have complained of language, as affording the moſt imperfect ſigns of thoughts; this is a ſubject that will ſcarcely apply to words at all, but belongs entirely to the thoughts.

The beſt idea that my mind can have of God, is from the idea it has of TRUTH; wherever I find this, I feel in myſelf an inſtantaneous glow of ineffable love, reverence, and adoration, which tell me, this muſt belong to the UNIVERSAL CAUSE, this muſt be God. Theſe ſenſations I cannot convey to others, becauſe words cannot be made to have relation to them. If I could, I ſhould have a power which

God only has; the power of communicating himſelf. It is therefore a ſubject that belongs to the thoughts only; a ſubject in which words only tend to lead us on from error to error, and would keep us forever in darkneſs, and under the harrow of doubt, heſitation, and uncertainty.

Wherever TRUTH is, and is rightly underſtood, it cannot be diſagreeable, but muſt and will, in good minds, excite all thoſe emotions which I have mentioned. But whenever I impiouſly attempt to identify God,—to give him a likeneſs to any thing which I can conceive of,—to ſhape him to my comprehenſion, and faſhion him after the frailty of my ſenſes, I cannot feel that ſatisfaction, love, reverence and devotion; becauſe, in this prophane way of reaſoning, I do not find TRUTH, I do not feel my GOD. And I wiſh that all men would be certain, that they do not entertain all that love, reverence and devotion for words which are meant for GOD. As the UNIVERSAL CAUSE is infinite, ſo it is incomprehenſible. Every thing that belongs to it, muſt, like itſelf, be infinite and incomprehenſible. What is finite cannot comprehend infinity; the one being compoſed of parts, the other not. Here then REASON art thou bounded!

Let us now try the extent of reaſon in anſwering our queſtion, What is this univerſal principle which actuates all matter?

If we attempt to trace the living principle to it's origin, which we muſt do to know it's nature, we ſhall find the purſuit to be vain; we cannot carry the art of de-compounding ſo far as to find one uncompounded particle of matter, and in every diviſion we find the living principle inſeparable.—That which is not diviſible, muſt be one. Matter and life are not diviſible, though the attempt be made as far as human underſtanding can go, and all that is beyond that, is, to us, infinite. Matter and life are then to us, one and the ſame thing; and the word INNATE has as much meaning as the word INSTINCT, in the ſenſe they are uſed, both affect to hold a diſtinction that does not exiſt. If a thing has a quality which cannot be ſeparated from it, that quality is a part of the thing, is one with it, and cannot be taken from it without deſtroying the nature of matter, which cannot be done.

Though, in purſuit of the origin of life, we find ourſelves loſt in the great ocean of infinity; yet we find, what we before hinted, that matter and life are one and the ſame thing. What we call Soul then, or the power of thinking, reaſoning, or reflecting, is no more than the operation of matter, acquiring that power of operation from it's particular kind of compoſition; and the great difference we obſerve in the action of matter is owing to the great difference of compoſition.

Though we cannot know exactly how the action of thinking is performed; yet, by tracing the leſs perfect action of matter, and comparing it with that which in us is it's moſt perfect action, we may obtain ſome idea of the operation of thinking: we ſhall then ſee that it is performed by the accordance of matter to matter; and all the phenomena of this ſurprizing action of matter is to be accounted for from the delicate variety of compoſition or form.

Let us now try how far we can trace the effects of conformity, by beginning with it's groſs effects, and purſuing it to it's fineſt.

An oblong ſquare of ſix feet by two will receive my body into it, but not a coach. The eye of a needle may be made to receive the point of another, but not it's head. Artiſts, in the fine branches of mechanical ſciences, carry this accordance of form in matter to a nicety almoſt impervious to an untutored eye. The action of matter in a ſpring is upon this principle. Suppoſe an extended piece of iron or wood, of a determined length and breadth, the matter of it's compoſition has an equal accordance in conformity on all it's ſides; let the two ends of this rod be drawn towards each other, and you thereby make the conformity leſs on the one ſide by what is to it preternatural compreſſion, and leſs on the other ſide by preternatural extenſion; the moment the force which held the rod in this tortured poſition, is removed, it recovers the place which the various forms of matter in it's compoſition require and induce.

Having diſcovered the principle of action in a ſpring, it would be eaſy for us to ſhow the cauſe of all the harmony of motion which we admire in a clock. Theſe things give us an idea of the uſe which mankind are capable of deriving from this principle.—What ſurprizing effects he can produce ſimply from the variety of form which he finds in or gives to matter. Next, let us trace this principle in things where it acts more perfectly, and where, for this reaſon, it's operation recedes further from our groſs ſenſes.

We ſhall find that it is upon this principle the circulation which is neceſſary to vegetable exiſtence is carried on.

The matter which is proper for the nouriſhment of a tree, is received into it by it's roots, it's leaves, and it's bark: all theſe are provided with veſſels, whoſe mouths, from their particular ſhape, are calculated to receive matter of a particular ſhape only, and refuſe matter of other forms which would be injurious to the tree. It is alſo furniſhed with excretory veſſels of a ſhape calculated to return to the earth and air, particles of matter of a particular ſhape, which is it's ſuperfluous matter (from which the ſtill finer veſſels have ſeparated and retain it's finer parts) and theſe excretory veſſels, will refuſe matter of another ſhape, and which is neceſſary for the increaſe and exiſtence of the tree.

Now let us trace the operation of this principle in our own bodies. And here that circulcation which is neceſſary to it's animal exiſtence, is carried on in the ſame way as in the tree, the difference being altogether uneſſential. Nutrition, reſpiration, digeſtion, ſecretion, and excretion, in ſhort all that we can mean by circulation, obtains alike in each: but here, as it was neceſſary for our welfare, we are better acquainted with the operation of this principle in our animal exiſtence, but in our mental exiſtence (if I may, in complaiſance to prejudice, uſe a diſtinction that has no meaning) it is more obſcure. We obſerve in our own bodies a conſiderable variety of matter in the form of fluid, which it's functions can ſeparate from only two ſubſtances, bread and water; this is performed altogether by the conformity which matter in the form of a vaſcular ſolid has to matter in the form of a fluid, the mouth of a particular veſſel correſponding to the ſhape of a particular fluid, whereby it is rendered capable of receiving that fluid and refuſing any other. The particular organization of matter in my eye, renders it capable of receiving and conveying to my mind certain ideas or ſenſations, which I call ſeeing. The particular compoſition of matter in my ear, renders that organ capable of receiving and conveying to my mind certain ideas, or ſenſations, which I call hearing; and ſo of the organs of taſting, ſmelling, and feeling.

It would remain for us now to examine the compoſition of that matter which is capable of comparing the ſeveral ſorts of ſenſations or ideas. In attempting this we ſhould have to do with organs too ſmall and complex to diſtinguiſh and explain; but if we allow that matter can do all that we have mentioned--that it is capable of conveying ideas to the mind--ſhall we judge that matter of the mind is incapable, of itſelf, of comparing and judging of them? Surely that kind of organization which is capable of conveying ideas to the mind, cannot, in it's mechaniſm, fall ſo infinitely ſhort of that kind of organization which is capable of comparing and judging of them, as to make it impoſſible, granting that matter can do the one, but that it may perform the other. We allow no ſouls to brutes; yet ſome of them have theſe organs in greater perfection in ſome things than we have. If it is not to be doubted that matter thus organized can effect ſuch things in them, ſhall we doubt that matter more completely organized, may be capable of performing the operation of thinking in us?

Matter in a particular compound has it's particular uſe. I cannot receive the ſenſations of ſeeing with my ears, and VICE VERSA. If the operation of thinking were done in me by that which is not matter, there muſt be ſuch an infinite difference between matter and it, as to admit of no relation or dependence; for what can be more oppoſed than ſpirit and death? And that all-pervading SOUL could as well look through my ears as my eyes, and VICE VERSA. If I had that in me which actuated my body, and which is not matter, then that IMMATERIAL SOMETHING (for I muſt ſpeak abſurdly if I ſpeak at all on this ſubject) would have communion with other IMMATERIAL THINGS, whereby I ſhould obtain ſome ideas of, and have ſome acquaintance with, THINGS IMMATERIAL. But Mr. Locke tells us, that THOUGH WE CANNOT CONCEIVE OF A LINE WHICH HAS LENGTH WITHOUT BREADTH, YET WE HAVE IDEAS OF DISTANCE UNCONNECTED WITH MATTER, which is the ſame as length without breadth.

It is with profound deference that I uſe his name, who has ſo far explained the operation and powers of the human mind. If it were poſſible for any thing human to have an immaterial conception, a mind ſo clear and capacious as his, certainly moſt deſerved the envied diſtinction of becoming the reſidence of ſuch a ſingular gueſt.

If this honored man have any where darkened his ſubject, by wandering from material to IMMATERIAL THINGS, which is wandering from the bounded road of reaſon, into the wild labyrinths of fancy, it has been owing to thoſe imperceptible prejudices, which ſteal upon us and rivet themſelves from long habit, which attack us in our infancy, when we cannot be upon our guard againſt them, nor able to repel them; thence growing up with us, they get wrought into our compoſition, ſo that he who thinks he has none, generally has the ſtrongeſt; but for this, Mr. Locke's mind, in that channel in which it was directed, would have been alone capable of leading makind out of the cloud of error, which had ſo long enveloped him.

Permit me, with modeſty, to examine the truth of this propoſition, THAT WE CAN CONCEIVE AN IDEA OF DISTANCE UNCONNECTED WITH MATTER.

The ideas which I get of diſtance is from menſuration and numeration; the one means a diviſion of matter into certain parts, the other is multiplying of words firſt derived from matter, being general names given to it: as to the fingers on my hands I give certain names, deſcriptive of their number, which then ſimplified is the multiplication of matter.

I have an idea of the diſtance from one end of my room to the other, by the number of paces which deſcribe it. I have an idea of the diſtance from Philadelphia to Boſton, by the number of miles into which the road has been divided. Having thus obtained an idea of diſtance from the diviſion of matter, I attempt to obtain an idea of the diſtance between this earth and the ſun, by the ideas of diſtance which I have acquired in the diviſion of matter: but does it follow from this, that I have an idea of immaterial diſtance? Granting this, would be giving parts to infinite, would be to ſay that I may carry a material impreſſion into infinity. The idea which I have acquired of the length of a certain part of matter, divided by a certain meaſure, remains with me, and enables me to compare it with other lengths, or to ſay that two and two make four.

If I ſee my Cane (which is reaſoning upon the ſame ground) ſtanding againſt the wall of my room, and it afterwards be removed, I have ſtill an idea of the place it occupied and the diſtance it marked upon the wall—Does it follow, becauſe the cane is removed, that my preſent idea is from an immaterial impreſſion? No. The idea of the cane and the idea of the wall it ſtood againſt, which was annexed to it, ſtill remain in my mind.

If any man ſtill think that he has an idea of immaterial diſtance, let him ſuppoſe himſelf the only matter in creation, or that he has any knowledge of, and then aſk himſelf if he thinks he could have any idea of diſtance, not allowing himſelf to divide his own body into parts or diſtances.

But it may be ſaid, that though I could prove that ideas are the impreſſions of external matter upon the matter of my mind, and thereby prove that thinking is the operation of matter; yet I cannot prove that the iſſue of that operation is material, i. e. that judgement which is the reſult of compariſon, is material. To this I have only to anſwer, that I can have no idea of any deduction from matter being any thing elſe than matter; unleſs I could ſuppoſe that matter could beget ſpirit. If I could ſhow the whole operation of my mind, then I ſhould prove a Soul, or a SOMETHING that is not MATTER, for I know myſelf to be Matter; to know the whole operation of it, muſt ſuppoſe an intelligence in me, which is above me (I add inconſiſtent with me) and is not Matter. If ſuch an intelligence was in me, it would prove itſelf in this way.

But we ought to have nothing to do with ſuppoſitions; our buſineſs is only to ſee how far reaſon can go, and what is beyond that, is, and ought to be, no concern of mankind.

kind. I deny a Soul, becauſe reaſon ſhows it to be nothing but a word; but if by Soul is meant the general principle of motion or life, then I ſay, after tracing matter as far as reaſon can keep ſight of it, I cannot ſeparate it from life.—All that is beyond that, is infinite; ſo to me, Matter, Motion, Life, Spirit, Soul, (or whatever name be given to Motion) is one and the ſame thing.

Why ſhould it be ſo hateful to our pride, the denying of a Soul, which we have proved is denying NOTHING, and trying how far we can account for that, which has unmeaningly been called Soul? If the operation of matter be made to have the ſame effect as the operation of that which has been called Soul, and which might as well have been called Nothing (for take the word Soul away, and Nothing remains) why ſhould we not ſuppoſe our ſtate as dignified as if we ſuppoſe our bodies actuated by and poſſeſſed of NOTHING? No reaſonable creature can have this for his objection. It muſt then be, becauſe it ſhows him to be actuated by the ſame principle that actuates the animal creation and other matter; and not dwelling enough upon the difference of compoſition, which give their motion and his—he feels his pride hurt by the likeneſs.

The difference between the Brute and us, we hold to be very great; the difference between us and the very next Being above us, may be greater; and all too little, to make a mark in the great map of the univerſe. Would we not complain of pride and injuſtice in this next Being, ſhould it affect to hold us in the ſame diſhonorable view that we do Brutes? They, as much as we, anſwer the deſign of the Univerſal Cauſe.

From all that has been ſaid, it follows that what we call Soul or Life, and our Bodies have the ſame origin; the one as much as the other is a part of, and if parts of, belong to, this world, this earth, and it's atmoſphere.

It becomes then very importantly neceſſary that we endeavour at ſome inveſtigation of this world, from which we find ourſelves to be derived; that we diſcover it's real nature; and that the nature of it be different from what has been ſuppoſed; otherwiſe the proſpect before us will be melancholy and hateful.

It is certain that a ſtate of Annihilation in one ſenſe, is deſtined for us; but a ſtate of complete annihilation,—annihilation in that ſenſe which is generally annexed to the word, cannot happen any more than eternity can end.

CHAP. V.

THE EARTH.

ALL that enters into my compoſition is derived from the Earth, and to it, as to it's origin and ſource, it muſt return. It would then be a great abſurdity in me to ſuppoſe that which is the ſource of all being and life in this world, ſhould be without life itſelf. If I ſuppoſe my Being the moſt perfect, becauſe it is the moſt compounded, of any on this earth, muſt I not ſuppoſe that Being which is my ſource, and which is the ſource of all Beings here, muſt be proportionably more perfect than me, as my whole is more perfect than any one individual part of me; I bearing the ſame relation to the earth, which that individual part of me does to my whole?

The firſt thing obſervable in the Earth is Matter, the ſecond Motion, and both theſe are various beyond our comprehenſion. Of the powers of this great compound, we know no more than that it is of a degree above us, beyond the reach of our knowledge to conceive; for as our comprehenſion is limited in things ſmall, ſo it is in things large: —INFINITE EXTENDS TO ALL SIDES, GREAT AND

SMALL ARE THE SAME. All that we can judge of it, is from thoſe parts of it whoſe compoſition are of a ſize more or leſs fitted to our's, and thereby noticeable to our ſenſes. From theſe we find that there is a continued circulation going on in it—a perpetual, and as far as we can obſerve, a regular exchange of matter between it and it's atmoſphere; of which the exchange of matter between the earth, atmoſphere and us, is an epitome. We obſerve that the animal, vegetable, and mineral kingdoms, are neceſſary to this circulation, and are to it, perhaps, what the excretory organs, the organs of perſpiration, are to us.

This Globe, let us view it which way we will, is in large, what a part of it, a man for inſtance, is in ſmall. The diſtinct organized beings, which enter into our compoſition, are too ſmall to be obſerved by us; but we, bearing the ſame relation to the earth, have ſome knowledge of thoſe parts of it, whoſe compoſition are, from their ſize, fitted to our ſenſes.

As all Matter centers in this Globe, ſo all Life centers in it; it's faculties deriving the benefit of all the faculties that are a part of it, muſt, as before obſerved, be above our conception.

The Earth, beſide the kind of motion which we have been ſpeaking of, has a general, a total, or what may be called it's compound motion; a motion in which all it's parts unite.—This motion ſhows us that the univerſe is not compriſed in the globe; for this motion muſt have the ſame kind of relation to, and dependence on, ſome other body, that the motions of our bodies have to the globe.

Beſides, the work of that power which is infinite, muſt bear a proportion to the power, and be infinite alſo. Our knowledge can compaſs this earth, and obſerve it's bounds; but our knowledge cannot compaſs that which is infinite.

There

There muſt then be ſome body to which this globe bears a relation, ſimilar to that which our and other bodies bear to it. All that we can venture to ſay of it, is, that it muſt have a likeneſs to this, comparing great things with ſmall; for as the Earth depends upon it, ſo it muſt be a part of it's compoſition. All that we ſee of the ſtars, &c. muſt be ſiſter parts with this world of one great body, which is their center, as this earth is of our and other bodies belonging to it.

So far reaſon can go by fair compariſon--how much further creation and dependence go, in ſpeaking of it, we muſt approach nearer to hypotheſis.---This much we know, that as it is beyond our comprehenſion, ſo it is to us Infinite.

But as Creation ſwells into Infinite, we may conclude, that this harmony and dependence, from the harmony and dependence which we obſerve in things that we can ſee, accompany it into Infinite.——Creation then, as far as we can trace it, would appear to be one INFINITE MASS OF MATTER.

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FINIS.